Guide to Your Galileo Organ

Version 1.0

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The Organ

Drawbars

Galileo's upper and lower manuals each have nine dedicated drawbars labeled UP and LOW. The pedal manual has two drawbars labeled PDL.

The drawbars are used to configure the basic signal produced by the organ. They work in a form of additive synthesis. As a drawbar is pulled, the amount of the corresponding signal in the mix is increased. The numbers above each drawbar represent the conventional labeling used on most electro-magnetic organs and are borrowed from pipe lengths found in pneumatic organs.

Below is a list of drawbars and corresponding tones:

16'	One octave below fundamental (Sub-Octave)
5 1/3'	5th above fundamental
8'	Fundamental
4'	One octave above fundamental
2 2/3'	One octave + a 5th above fundamental
2'	2 octaves above fundamental
1 3/5'	2 octaves + a 3rd above fundamental
1 1/3'	2 octaves + a 5th above fundamental
1'	3 octaves above fundamental

Organ Types

Use the ORGAN TYPES section on the ORGAN panel to select an organ engine for each manual. Each manual is provided with a drop down menu for choosing its organ type.

Turn on LINKED SELECTION toggle to assign the same organ type to all the manuals. Turn LINKED SELECTION off to choose organ types individually.

The organ types that start with "B" activate tonewheel emulators. The remaining organ types activate transistor emulators.

Bass Foldback

Traditional tonewheel organs feature bass foldback, where the signal controlled by the upper and lower manual 16' drawbars on the C3-C4 range is repeated for the C2-C3 range. You can turn off this feature using the BASS FOLDBACK toggle, so as to obtain an extra sub-octave in the C2-C3 range.

Percussion

A core ingredient of the traditional organ sound is the "percussion" effect. The percussion effect adds an enveloped signal borrowed from the output of 4' or 2 2/3' drawbars to note attack to create a bell-like staccato effect.

Use the PERC LOW and PERC UP toggles to turn on the percussion effect for the lower and upper manuals, respectively.

Use the VOL toggle to specify the amplitude of the percussion signal. Use the DCY toggle to specify how fast the percussion signal fades out. Use the HAR toggle to specify the harmonic produced by the percussion effect.

Use the ALG toggle to specify the trigger algorithm for the percussion effect. In the TRADITIONAL mode, the algorithm replicates the trigger mechanism in classic tonewheel organs: the percussion envelope is triggered by the first key the player

presses, and not retriggered until all the keys are let go. In the ALWAYS position, percussion is triggered by each new key the player presses, regardless of whether other keys are already engaged.

Scanner Vibrato / Chorus

Galileo includes an emulated scanner vibrato / chorus stage. In addition to producing a modulation effect, the scanner will also slightly change the tonal characteristics of the organ to replicate the behavior of a physical scanner circuit.

Use the VIB LOW and VIB UP toggles to turn on the scanner for the lower and upper manuals, respectively. Turning on VIB LOW also connects the pedal manual to the scanner stage.

Use the VC knob to select the intensity of the vibrato / chorus effect. V1-V3 produce a small to wide vibrato, whereas C1-C3 produce a mild to deep chorus effect as the numbers increase.

Other Settings

Use the BALANCE fader to control the volume balance between the upper and lower manuals.

Use the PEDAL VOL to control the volume of the pedal manual.

Use the KEYCLICK knob to set the loudness of the keyclick effect.

Use the BRILLIANCE knob to set the brightness of the organ output. Turn the KNOB towards 0 to increasingly roll off the high end, mimicking the effect of aging filter capacitors on the organ's tone.

Use the DB LEAK knob to specify the amount of signal leak from the drawbars.

Use the TW LEAK knob to specify the amount of tonewheel leakage into the pure organ signal. Tonewheel and drawbar leakage were behaviour encountered in some electro-magnetic organs.

Use the SWELL and SUSTAIN knobs to specify the attack and release times for each note. Higher SWELL values correspond to a slower attack, whereas higher SUSTAIN values correspond to a slower release, where the note lingers on after the corresponding key has been released. You can use the UP/LO/PL selector to individually set attack and release for each manual.

Use the COUPLE MANUALS toggle to turn on manual coupling. With this feature turned on, a note played in any manual is simultaneously played on all the other manuals. This creates a fuller, unison effect.

Drawbar Sets (DB SETS)

You can use Galileo's "Drawbar Sets" feature to instantly change drawbar configurations during a musical performance. The upper and lower manuals can each accommodate twelve drawbar configurations. The configurations are all saved when you save your current sound as a preset (for more about presets and banks, please refer to the section below). Drawbar sets can also be selected using MIDI notes on an external keyboard, or via MIDI CCs. Please refer to the section about MIDI for more information.

Press the DB SETS toggle on the overhead menu bar to display or hide the drawbar sets control strip.

Upper and Lower manuals are each provided by two sets of six numbered selectors. Use the PRES RANGE toggle to view selectors 1 through 6 or 7 through 12.

To change to a pre-set drawbar configuration, simply select its corresponding numbered button.

To program a DB Set, simply choose the numbered button you would like to store your configuration to, and then proceed to adjust the drawbars to your liking. The final configuration will automatically be remembered by that DB Set.

In addition to the drawbar configuration, a DB Set also remembers the state of the Vibrato / Chorus toggle and the Percussion On/Off toggle for that manual.

Effects

Ring Modulator / Tremolo

Use the FAST/SLOW switch to specify the operating frequency range for the effect. Use the fader to control or sweep the current modulation rate. In the SLOW mode, the fader has a range of 0.5 to 80 Hz; in the FAST mode, a range of 30 to 4200 Hz. Rates below 20 Hz will result in a tremolo effect.

Use the MIX knob to specify the depth of the tremolo or ring modulation effects.

Wah / Autowah

Use the TYPE selector to choose among the four unique types of wah-wah effect. Use the WIDTH knob to specify the amount of "emphasis" for the wah filter. Use TONE and RANGE knobs in tandem to specify the wah sweep range and center frequency. As TONE is tuned up, the center frequency is increased. Use the SWEEP fader (or an external controller: please refer to the MIDI Learn section below for more details) to manually sweep the wah.

To turn on the Autowah, use the AUTO/MANUAL toggle. The Autowah will automatically sweep the range specified by the TONE and RANGE controls mentioned above.

Select a sweep curve using the SHAPE selector. Use the RATE knob to specify the speed of the sweep, and the PHASE knob to change the start point of the sweep. The effect of the PHASE knob is most noticeable when the Autowah is used in TRIG or ONCE trigger modes.

Use the MODE selector to specify the trigger behavior of the Autowah. In CONT mode, the Autowah is always running; in TRIG mode, the Autowah curve is reset whenever a new note is triggered. In ONCE mode, the Autowah sweeps for one period of the curve when a new note is triggered, and then stops.

Use the BPM SYNC toggle to turn on BPM syncing for the sweep rate. When BPM Syncing is turned on, you can use the RATE knob to specify a note value for the sweeps. The BPM is set using the master tempo control located in Galileo's TAPE panel, or via an external MIDI clock.

Use the VEL TRACK toggle to turn on the Autowah velocity tracking. The velocity tracking feature uses MIDI or virtual keyboard touch velocity data to vary the depth of the autowah sweeps, so as to create a more varied wah effect.

Virtual-Tube Preamp

Use the GAIN and BLEND knobs to specify the amount of signal saturation.

Use the BASS, MID and TREBLE knobs to control the preamp's tone stack. Turn the knobs clockwise to boost, and counterclockwise to attenuate the corresponding frequencies.

Use the HI/LO switch to change the focus of the MID control. In the LO setting, the MID response is similar to that in "American Amps"; in the HI setting, the response is similar to that in "British Amps".

Rotary Cabinet Simulator

Galileo's rotary effect features a combination of the Doppler/chorus effect and cabinet simulation.

Use the ROTARY and BRAKE toggles, accessible at all times on the upper left, to control the speakers' state. The ROTARY toggle specifies the speed mode, whereas the BRAKE starts or stops the speaker "rotors". The speakers always finish by facing out when they are stopped.

To further configure the rotary effect, go to the FX2 panel.

Use the MODEL selector to select a cabinet simulation with a unique frequency response. "Model A" has a more bell-like characteristic, not unlike a guitar amp; "Model B" replicates a traditional "open" rotary cabinet; "Model C" simulates a "closed" rotary cabinet with clear midrange emphasis.

Use the SLOW and FAST knobs to specify the speaker rotation speed for the corresponding operation modes.

Use the ACCEL knob to specify how fast the speakers speed up or slow down when changing speed modes or using the brake.

Use the BALANCE knob to specify the mix between the horn and drum speakers.

Use the MIC knob to specify the stereo "travel" for the rotary effect.

Use the MIX knob to specify the amount of Doppler effect.

Delay

Use the TIME knob to specify the length of the delay. Use the FEED knob to specify the amount of feedback. Use the MIX knob to specify the amount of wet (delayed) vs. the dry signal.

Reverb

Use the SIZE knob to specify the size of the reverberation. Use the SPREAD knob to set the amount of stereo spread for the reverb effect. Use the MIX knob to specify the amount of reverberated signal. Use the PRE knob to set the amount of pre-delay for the reverberated signal.

Signal Flow

You can change the order in which the effects are processed by using the drag-and-drop interface in the Signal Flow area. To return to the original order saved in the current preset, press the RESET button.

Pre- and Post-FX Volume Controls

Use the ORGAN / MASTER volume toggle always accessible on the left side of control panels to switch between Pre- and Post-FX volume controls, respectively.

In the ORGAN position, the volume fader will control the gain of the signal going into the FX chain from the organ.

In the MASTER position, the fader will control the amplitude of the final, post-FX signal for the whole system. If digital clipping is heard, or if the clipping indicator in the built-in VU meter is lit, compensate by turning down this master volume.

Arpeggiator

Galileo has its own fully-configurable arpeggiator module. Moreover, each manual is provided with its own program buffer and individual arpeggiator toggle. You can view the arpeggiator by touching the ARP switch on the overhead main control panel.

Use one of the ON/OFF switches to activate the arpeggiator for that manual. Use the MODE toggle to select the arpeggiator's operation mode. The modes operate as follows,

In the PERF mode, the arpeggiated notes are input via the on-screen or external keyboard. For example, holding the notes C, E and G on the keyboard will arpeggiate those notes. When the HOLD switch on the keyboard control area is off, letting go of the notes will cause the arpeggiator to stop. When the HOLD switch is on, the C, E and G will stay arpeggiated until touched again.

In the TRIG mode, touching a key on the keyboard will cause a pre-programmed arpeggio to be started. If the HOLD switch is off, letting go of the key will stop the arpeggio. When the arpeggio is turned on and set in TRIG mode, the programming area on the right is automatically activated. You can use the buttons on each programming strip to input notes into the corresponding manual's arpeggio: touch a hollow button to include it in the arpeggio. Touch again to remove from arpeggio. Use the SCROLL LOCK toggle to enable scrolling through the available notes.

You can select among arpeggio algorithms by selecting the text in the ALG box. Use the VALUE knob to specify the note value. The GATE knob is used to set the notes' sustain. The SWING knob is used to specify the amount of "swing" in the pattern: 50% corresponds to no swing, 66% percent corresponds to "medium shuffle", and so on.

Use OCT RANGE and OCT RPT to specify the octave range of the arpeggio and the number of times each octave is repeated. Use NOTE RPT to specify how many times each note is repeated.

When you save a preset, the arpeggio notes and settings are also saved.

Virtual Keyboards

Resizing & Positioning

Touch the padlock toggle on the upper right of the manuals to lock / unlock the keyboard configuration.

In the unlocked state, scroll a keyboard to change its position. Pinch in or out to resize the keys. When finished, press the padlock toggle to return to performance mode.

Scaled Keyboard

You can set up to keyboards to play only the notes in a specified musical scale & key. Scale keyboard settings are accessible on the PREFS panel.

Use the ON toggle to turn keyboard scaling on or off. Use the ROOT and SCALE dropdown menus to select a musical key and scale. Use the EDIT NOTES array to include or exclude particular notes from the current scale.

Touch Velocity

Galileo includes a touch velocity sensor algorithm for use with the virtual keyboards. To enable touch velocity sensing, turn on the VELOCITY SENSE toggle on the PREFS panel.

Presets

You can access banks and presets by touching the Preset Display at the top of the main screen. The active names of the active preset and bank are shown on the Preset Display.

The left-hand table on the preset browser displays the available banks. Select a bank to display its contents on the right-hand presets table. Load a preset by selecting its name.

Save a preset into the selected bank by touching either OVERWRITE or SAVE AS. OVERWRITE will automatically write over your current preset, without asking you to re-type the name. SAVE AS will save your changes as a new preset and prompt you to enter a name.

Select INIT to clear all the organ parameters and start programming a new organ preset from scratch.

You can import and export Galileo presets through email or iTunes File Sharing, and use them on other devices running Galileo. To export a bank or a preset, start by selecting it on the Preset Browser and then touch SHARE. Choose the desired export method on the displayed dialog.

When exporting via iTunes File Sharing, the selected bank or preset file is saved into the application's root Documents directory. You can download the file by connecting your device to iTunes and navigating to the "Apps" section of your device within iTunes. Below your list of apps, you will find the "File Sharing" section. Select Magellan, and then save the exported bank or preset files to your computer. Bank files have the extension "YBAN", whereas preset files have the extension "YPAT".

To import via iTunes, upload a YBAN or YPAT file to the Galileo root directory shown in the iTunes app file-sharing section. When finished, launch Galileo on your device and open the presets browser. Press SHARE on the lower bar and choose "iTunes: Import Files" and follow the instructions. Any compatible files found on the Magellan root directory will be automatically added to the preset system.

You can also email the selected preset file. To import a preset file via email, touch its file icon in the Apple Mail app and select "Open In…" or "Open in Galileo". Note that an email should contain only one YBAN or YPAT file.

You can delete or re-order banks and presets by touching the EDIT button on the upper right. When finished, pressed done to get back to browsing mode.

You can favorite a preset by touching the "star" button located next to it. The starred presets are accessible under "Favorites" bank.

You can also search for presets via the provided search bar in the Preset Browser.

Use the RESTORE FACTORY button on the upper left of the Preset Browser to restore all the presets that originally came with your copy of Galileo. NOTE: this operation will roll back any changes you may have made to factory presets.

For information on MIDI bank and program changes, please refer to the section about MIDI below.

Other Preferences

Use the controls in the TUNING section of the PREFS panel to specify the reference pitch and the master tuning for the organ.

The ROTARY KNOBS toggle controls the behavior of the rotary knobs throughout the app. When turned off, the knobs behave to touch in a way similar to faders. When turned on, the knobs are controlled by a circular touch motion.

Use the THEME dropdown to select a “skin” for the organ.

Use the HARDWARE BUFFER SIZE dropdown to specify the operative hardware buffer size. For minimizing latency, select a smaller buffer size. For reducing CPU load, select a bigger hardware buffer size.

Recording, Sharing, and Metronome

To start an audio recording, simply touch the REC button. The switch will glow red, indicating that the recorder is on. Touch again to stop. The recording will automatically be saved to a file.

You can browse and select recordings on the table on the left. Press the NAME, SIZE or DATE cells to sort recordings by that parameter, either ascending or descending. To play an audio file, select it on the table; its name will appear on the screen to the right of the table. To rename the selected audio file, touch its name in the screen area on the right.

To change the position of the selected audio, use the "scrub" below the recording's title. Use the LOOP switch to specify whether the audio loops or stops when its end is reached. Use the VOL knob to set the output volume of the playback.

Use the EXPORT and IMPORT buttons to display audio file sharing options. As of the writing of this document, Galileo is able to share your recordings via email, WiFi, SoundCloud (SoundCloud user account required), Intua Audio Copy/Paste, and Sonoma Audio Copy/Paste.

The recording settings are found in the REC PREFS area. Use the REC COUNT-IN toggle to enable metronome count-in when a recording has been started. When enabled, the recording will automatically start after the metronome goes through the number of specified measures, and will stay on throughout the recording unless manually turned off. Use the FIXED-LENGTH RECORDING button to only record the specified number of measures. Use the TOUCH-TRIG toggle to force a recording to start only when the first note is triggered.

Metronome & BPM

Use the TAP TEMPO control to tap in a desired BPM. Use the up down buttons next to TAP to change the BPM at increments of 1 (touch) or 10 (touch down and hold). Use BEAT COUNT and BEAT VALUE to specify a time signature, and the VOL fader to set the metronome volume.

Audiobus

Galileo can be used as an input into or as an effects processor in an Audiobus connection.

To use Galileo as an input source in Audiobus, simply add Galileo into the Audiobus INPUT slot.

To use Galileo as an effects processor, add Galileo into the Audiobus EFFECTS slot.

For optimal results, make sure the Galileo's hardware buffer size is set to 256 samples. You can set Galileo's hardware buffer size in the Galileo Preferences panel.

For more information about Audiobus, please visit http://audiob.us/

MIDI & Virtual MIDI

Basic Operation Using External Controllers

Use Apple's Camera Connection Kit to connect a CoreMIDI compatible USB MIDI controller to your iPad's charging port.

You can also use an iOS compatible MIDI interface, such as iRig MIDI, to a MIDI controller via a standard MIDI cable.

NOTE: USB MIDI controller may require a power adaptor to work with iPad.

Go to Galileo's MIDI Preferences panel to specify the input MIDI channel for the organ manual you wish to control. You can specify a MIDI channel 1-16, or select OMNI to receive input from all the channels. If you specify a particular channel, make sure your external controller is also set to transmit on that same channel.

If your external controller is equipped with a pitch wheel, you can use it to apply pitch bending. The pitch bend range can be configured in the Tuning section of the Galileo preferences panel.

If your external controller is able to transmit MIDI Continuous Control ("CC") messages, you can use this feature to control Galileo's parameters. Please refer to MIDI Learn below for more information.

Controlling Galileo using CoreMIDI Networking

Galileo can be controller via a networked CoreMIDI session. Please refer to Apple's documentation on using the Audio MIDI Setup app to deploy a network session between your Mac and iOS device.

Using Galileo with other Virtual MIDI Apps

To control Galileo using another Virtual MIDI app on the same device, follow these steps,

1) Turn on the BG AUDIO switch on the Galileo preferences panel. **CAUTION: when Galileo will not be used for a long time period, make sure to turn off the BG AUDIO feature to conserve device battery!**
2) Navigate to a Virtual MIDI compatible app that you wish to use to control Galileo. Make sure the app has a virtual MIDI Out port.
3) Refer to the app's user manual for connecting to Galileo's MIDI IN port.
4) Return to Galileo if necessary to specify the input channel. Additionally, you can see a list of currently available Virtual MIDI or networked input

ports detected by Galileo by touching the INPUTS arrow button in the MIDI preferences panel.

Using Galileo's MIDI Out Ports

Follow the instructions provided by the target app or device to prepare it for receiving MIDI from Galileo. Once the app or device establishes connection with your iPad, you will see it listed in the dropdown

Using Galileo to Control Other MIDI Apps or Devices

You can transmit MIDI note messages from Galileo to other MIDI capable devices or apps. Galileo provides three MIDI Out ports, one for each organ manual. In addition, you can send the notes generated by Galileo's built-in arpeggiator via the MIDI Out ports.

Configure the Virtual MIDI target app as indicated in its user manual, or connect an external MIDI-capable device using the appropriate adapter. If the app or device is connected correctly, you will see it listed in the MIDI OUTPUTS table accessible though the OUTPUTS button on Galileo MIDI panel. Select the desired app or device on this table: when connected, a checkmark will appear next to its name.

Set the MIDI Out channel for the organ manuals you wish to use by touching the SET button located next to the OUTPUTS button on the Galileo MIDI Panel. For each manual, you can choose a MIDI channel between 1 and 16, or select OMNI to transmit on all the channels. Lastly, turn on the MIDI Out port for the desired manual(s) using the ON toggle located next to that manual's channel configuration area.

Keyboard Splitting

Galileo has a built-in keyboard splitting feature for use with external MIDI controllers. This feature allows you to use a single MIDI keyboard to control Galileo's upper and lower manuals.

To use keyboard splitting,

- Set your keyboard's MIDI OUT channel to match Galileo's **upper manual IN channel**
- Enable keyboard splitting by touching the KB SPLIT toggle on the MIDI Preferences panel.

To configure keyboard splitting,

Touch the SET button next to KB Split button to display split preferences

Use the SPLIT NOTE arrow buttons to change the keyboard split point

Use the RIGHT MIN and LEFT MAX to configure the note mapping for the right and left sides of the split point. For example, if the split point is MIDI Note 60 (C4), and RIGHT MIN is 72 (C5), then pressing Note 60 on your keyboard will cause Note 60 to be engaged in Galileo; pressing Note 61 will engage Note 73, and so on.

Similarly, if LEFT MAX is set to 47, then pressing Note 59 on your keyboard will engage note 47; pressing Note 58 will engage note 46, and so on.

Use the INVERT toggle to configure which manuals the left and right sides of the split control. In the OFF position, the right side of the split controls the upper manual, whereas left side controls the lower manual. In the ON position, this is reversed.

Turn on the LEARN toggle and press a key on your keyboard to automatically designate a KB Split Point. This will also automatically load RIGHT MIN and LEFT MAX values to start / end at the designated split point. When done, turn off LEARN.

The MIDI NOTE > DB PRESET MAPPING toggle specifies which MIDI Notes control the DB Presets.

MIDI Note Implementation

Galileo Upper & Lower Manuals have a native MIDI Note range of 36-96 (C2-C7) inclusive.

Galileo Pedal Manual has a native MIDI Note range of 36-60 (C2-C4) inclusive.

MIDI Notes 0-35 are reserved for universal control of the Pedal Manual, as well as access to Drawbar Presets. By default, Notes 0-11 can be used to select a Drawbar Preset for the corresponding (upper or lower) manual. Notes 12-35 control the Pedal Manual to allow left-hand bass playing on any non-Pedal MIDI Channel.

The MIDI NOTE > DB PRESET MAPPING toggle in the KB SPLIT SET panel is used to invert this configuration. When set in “24-35” position, the Drawbar Presets are now controlled using MIDI Notes 24-35, whereas the Pedal Manual is controlled using Notes 0-23.

This mapping is also available when KB SPLIT feature is on, depending on the range specified for the left side of the split via LEFT MAX parameter.

External MIDI Clock Syncing

You can use an external MIDI clock to synchronize the arpeggiator module in Galileo with another Virtual MIDI app or a physical device that is able to send standard MIDI clock messages. When enabled, Galileo will perform at the BPM specified by the "master" clock.

Please refer to the user manual of the master app or device to set up clock messages to be sent to Galileo. Once ready, turn on the EXT CLOCK toggle in the Galileo MIDI preferences area to start receiving clock messages.

NOTE: To start or stop the arpeggiator via an external clock, those modules should be left in the ON state.

MIDI Learn

Galileo has an extensive number of parameters which you can control using an external device or app that is able to send MIDI control messages. You can configure this feature by accessing the MIDI Learn / CC Map screen through the CC / LEARN button in the Galileo MIDI preferences area.

Make sure your MIDI controller is correctly connected to your iOS device. Turn on MIDI Learn by touching the LEARN toggle. Select the target module, and then select the name of the parameter you wish to control on the CC MAP table. Manipulate a control element on the MIDI device to assign it to the selected synth parameter. If recognized, the second column on the CC MAP table will display the MIDI out channel of the device, and the final column will display the Control Code of the device element. Repeat for any other parameters. When finished, touch LEARN again to stop the MIDI learn session. You are now able to control the learned parameters using the device element on the specified MIDI channel.

You can change the channel assignment for a parameter at any time by selecting it and using the CHANNEL SELECT arrow buttons. Aside from MIDI Channel 1-16, you are able to specify "OM" (for OMNI) to receive the control change message on any MIDI Channel.

You can also enter a Control Change code manually by selecting a parameter and using the provided number pad. When finished, touch SET to finalize code entry.

Use the dropdown buttons in the EXPRESSION QUICK SELECT area to one-touch assign a common MIDI CC to any one of the listed destinations. Alternately, you can select the "CC Map" option to send that CC to the destination specified in the CC Map.

Galileo comes with a default MIDI CC MAP. You can build and save a CC MAP configuration for later use. Touch the SAVE AS button to save the CC MAP to file. To browse and load a CC MAP, touch the arrow button next to PROFILE display.

MIDI Program Changes

You can use standard LSB and MSB bank change messages, as well as MIDI Program Change messages to select a bank or preset via MIDI.

Currently, the LSB bank change values 0 and 1 are used to select the "Favorites" and "Recent" banks.

The MSB bank change values are used to select an actual bank. The value for each bank is found in brackets next to its name in the Galileo Preset Browser.

Use MIDI Program Change messages to select a preset in the current bank. The program value for each preset is found in brackets next to its name on the Preset Browser.

WIST

Korg's WIST technology allows you to sync Galileo's arpeggiator with another WIST-capable application. Galileo's WIST button is found in the Preferences panel. You can make a connection with Galileo as either "slave" or "master."

Slave: When the "master" app is started, each of Galileo's selected targets will also start. **The Arpeggiator can only be started if it is in PERF mode.**

Master: Turning on Galileo's selected source on or off should also cause the "slave" app to start or stop. Turning a selected source on or off will also simultaneously toggle all the other selected sources in Galileo. **The Arpeggiator can be started or stopped only in PERF mode.**

WIST is a trademark and software of KORG INC. For more information, please visit http://www.korguser.net/wist/

Tips and Troubleshooting

Tips

1) CPU Usage

Due to the vast number of modules and parameters available in Galileo, the software is designed to operate "on-demand" to save CPU power and make sure the maximum amount of resources are available for clear and continuous sound generation. To ensure the optimal use of the CPU, make sure all unused features or effects are turned off.

2) Master Volume

Use the Master Volume fader on the Galileo's left hand permanent panel to find the optimal output level for the system output. The optimal output level may depend on the active preset. When you perceive that the output is suffering from digital distortion, or the clipping indicator on the VU meter frequently comes on, reduce the Master Volume until distortion disappears.

Troubleshooting

No Sound

1) Make sure the iOS device is not on mute, and that the device volume is turned up
2) Make sure that the Galileo Organ or Master Volumes are not turned all the way down
3) If using effects, make sure that they are all set correctly so as to not silence the organ output. Also, make sure that not all the drawbars are set to 0.
4) Make sure that if the arpeggiator is on and set in TRIG mode, there are programmed notes entered in the arpeggiator.
5) If the silence is caused by a sudden overload, press the PANIC button on the upper left corner to reset the audio system. Following this, go to the presets browser, first select a different preset, and then select the preset you wish to use.
6) If the above procedure does not work, exit and completely shut down the app by going to the iOS task bar. You can access the task bar from your iOS home screen by double-clicking the device home button.
7) In some cases, rebooting your iOS device may also help.

Stuttering Audio

Depending on the generation of your iOS device, a high load on the CPU may cause the audio output to “stutter” or sound “glitchy”. To address this, turn off any unused audio effects. Also, completely shut down any other apps you are no longer using by going to the iOS system tray. Please refer to “CPU Use” in the Tips section for more information.

Distorting Audio

Please turn down the Master Volume on the Galileo main side panel until the sound clears up. You may also want to tweak certain effects in the audio effects chain to achieve a cleaner audio.

Specifications

OVERVIEW

- Analog-Modeling Tonewheel & Transistor organ emulator
- 32-Bit Floating Point Pro-Grade Digital Signal Processing
- Ultra Low-Latency audio generation
- Virtual Tube Amp & Rotary Cabinet emulator
- Comprehensive FX section with configurable signal flow
- Extensive MIDI & MIDI Learn capabilities; MIDI I/O Ports
- Built in Arp, Recording, Audiobus output/effects, and more

ORGAN ENGINE

- Virtual-Analog Tonewheel & Transistor Organ Emulation with real-time signal generation
- Three individually configurable manuals
- Dedicated drawbars for each manual
- 11 organ types available for each manual, including:
    - 5 Tonewheels in various conditions, leakage & tonal characteristics
    - 6 Unique Transistors
- Scanner Chorus & Vibrato emulation
- Carefully designed percussion section with full control set & 2 attack algorithms
- Adjustable drawbar & tonewheel leakage for authentic tone
- Per-manual adjustable attack & release
- Adjustable key click
- Dedicated pre-FX Organ Volume and post-FX Master Volume
- Togglable Bass Foldback
- Adjustable Brilliance for rolling off the high end
- Adjustable Upper/Lower Manual Balance & Pedal Manual Volume
- Manual Coupling
- 48-voice total polyphony
- 12 MIDI Keyboard-selectable drawbar sets per manual for on-the-fly tone changes within a preset

MIDI

- CoreMIDI enabled
- Virtual MIDI enabled, with both vMIDI In and vMIDI Out ports available
- Audio Backgrounding
- Control Galileo using external MIDI controllers or Virtual MIDI apps
- Individually settable MIDI In & Out channels for each manual
- MIDI Out from keyboards & arpeggiators
- MIDI Learn with 135 control destinations
- Use MIDI CCs to control Organ, Drawbars, Effects, or Arp

- Save MIDI CC configurations to file for later use
- Default MIDI CC map, developed from General MIDI Level 2
- Keyboard splitting with learn & settable note mapping
- Use MIDI notes 12-35 or 0-23 to control the pedal manual at any input channel
- Use MIDI notes 0-11 or 24-35 to instantly select a drawbar set at any input channel
- Sustain & Expression Pedal support
- One-touch assign for common MIDI Expression CCs to common parameters like rotary brake or speed, swell, wah sweep, etc.
- MIDI pitch bend with adjustable range
- Support for MIDI Program and MSB Bank changes
- MIDI Velocity recognition
- Sync with external MIDI clocks to control the arp module
- WIST integration as both Master and Slave

ARPEGGIATOR

- Dedicated, separately programmable arp buffers for each manual
- Per-manual arp toggles
- 10 arp algorithms
- Settable note value and gate
- Swing
- 6 octaving modes, as well as settable note and octave repeats
- Trigger or Program/Perform modes

PRESETS

- Over 240 factory presets ranging from Jazz classics to Gospel to Rock
- A bank produced by Sunsine Audio
- INIT function, to create presets from scratch
- Export or Import presets or banks via email or iTunes File Sharing
- Create and save unlimited banks and presets
- One-touch preset favoriting
- Preset search

ROTARY CABINET SIMULATION

- Faithful emulation of the lush Chorus/Doppler effect produced by rotary organ cabinets
- State-of-the-art cabinet simulation with period-correct frequency response & resonance
- 3 cabinet types, including baffled & open speakers
- Always accessible rotary speed & brake toggles
- Adjustable slow & fast mode speeds
- Adjustable rotor acceleration for authentic speed-up or slow-down effect

- Adjustable drum-to-horn balance
- Adjustable stereo mic separation
- Rotary effect mix

VIRTUAL-TUBE PREAMP

- Asymetric-clipping "Class A" tube modelling preamp
- Adjustable gain & blend, providing anything between mild tube saturation to harmonic-rich heavy distortion
- Classic tone stack with adjustable Lows, Mids & Highs
- Selectable "Low" or "High" Mids focus for obtaining "American" or "British" tube tones
- Realistic input-volume sensitive design for on-the fly control of saturation

WAH / AUTOWAH

- 4 unique Wah types: Cry, Wail, Boost & Carve
- Adjustable sweep width & sweep center
- Adjustable emphasis
- Togglable Autowah module with 5 sweep curves
- Continuous, trigger-reset and one-shot auto sweep modes
- Settable auto sweep rate and phase
- Auto sweep BPM syncing with 16 available note values
- Velocity tracking for auto sweep depth

MORE FX

- Ring Modulator / Tremolo with rate, mix & slow or fast operation modes
- Delay with time, feedback & mix
- Reverb with size, spread, mix & pre-delay
- Configurable signal path with intuitive drag-and-drop interface
- All effects available for use in the Audiobus effects slot for processing audio from other apps or instruments

PERFORMANCE

- Touch Velocity recognition for the virtual keyboards
- Scale keyboard mode with over 50 musical scales & settable key
- Settable hardware buffer size
- Settable A4 reference frequency, semitones and cents
- Individually settable key width for each manual
- 4 organ "skins" to choose from
- VU meter with clipping indicator
- Tap tempo
- Adjustable pitch wheel bend radius

- Rotary or fader-like operation option for knobs
- Dedicated note hold for each manual
- System/MIDI panic button

RECORDING, FILES, and SHARING

- Built-in tape deck for recording app audio
- Fixed-duration recording option for easy loop creation
- Rec count in option
- Built-in metronome with settable time signature
- Export audio files via email, WiFi, SoundCloud, Intua or Sonoma Audio Copy
- Import audio files via WiFi, Intua or Sonoma Audio Paste

SYSTEM REQUIREMENTS

- iPad 2 or newer recommended for best performance
- iOS 5.1 or newer